

REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following remarks is respectfully requested.

Claims 1-24 remains active in this, Claims 1-3, 6-8, 10-13, and 15-18 having been amended and Claims 21-24 added by the present amendment.

In the outstanding Official Action, Claims 1-4, 6-9, 11-14, and 16-19 were rejected under 35 U.S.C. 102(e) as being anticipated by Hsieh (U.S. Patent No. 6,576,537), Claims 5, 10, 15, and 20 were rejected under 35 U.S. C. 103(a) as being unpatentable over Hsieh and further in view of Feldkamp et al.

In light of the outstanding grounds for rejection, the pending claims have been amended to clarify what is believed to be a feature clearly patentably defining over the cited art. To that end, each independent claim has been amend to clarify that z-filtering is performed, and that the z-filtering includes varying sharpness of filtering so that pixels near an iso-center have higher resolution than pixels in the periphery. Support for these changes is found in paragraph [0026] and Figure 4 of the original disclosure and original Claim 2. Claim 1 has been further clarified to state reconstructing a CT image based on the filtered data. Similar changes have been made to each other independent claim. Also submitted herewith are new Claims 21-24 which further state that the z-filtering includes increasing the sharpness of a kernel with decreasing distance from the iso-center to the detector cell, as disclosed in paragraph [0024] of the specification. No new matter has been added.

Briefly recapitulating, an object of Applicants' invention is to reduce a windmill artifact in CT imaging. To that end, Applicants perform z-filtering which can reduce the windmill artifact, but z-filtering also impairs z-resolution. Nevertheless, Applicants have recognized that it is possible to obtain advantages of z-filtering while substantially maintaining z-resolution where it matters most by performing the z-filtering relatively weakly

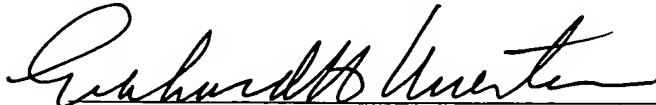
near the center of the CT image and stronger in peripheral parts. As a result, windmill artifact is relatively reduced and image z-resolution is relatively maintained. Thus, according to the claimed invention, a weak "smoothing" z-filter (or non-filtering) is used near the center channel of the X-ray detector and a strong "smoothing" z-filter is used in peripheral channels of the X-ray detector. Therefore the character of the z-filtering is relatively weak near the center of the reconstructed CT image and relatively stronger in the peripheral part of the reconstructed CT image.

Applicant respectfully submits that the applied prior art does not teach the z-filtering performed according to the present invention, including varying sharpness of filtering so that pixels near an iso-center have higher resolution than pixels in the periphery, as stated in each independent claim, and does not teach z-filtering including increasing the sharpness of a kernel with decreasing distance from the iso-center to the detector cell, as stated in each of Claims 21-24. Accordingly, the outstanding grounds for rejection are believed to have been overcome and the pending claims are believed to be allowable over the cited art.

Consequently, in view of the present amendment and in light of the above comments, no further issues are believed to be outstanding, and the present application is believed to be in condition for formal allowance. An early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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